TOSHIBA INSTALLATION MANUAL

Digital Inverter Air Conditioner
Application Control Kit

Use for Outdoor Unit Only
Model:TCB-PCOS1E2

For Installation Professionals

- Please read this manual thoroughly before starting the installation work, and install the products correctly.

CAUTIONS for SAFETY

⚠ WARNING

Ask an authorized dealer or qualified installation professional to install/maintain the air conditioner.
- Inappropriate installation may result in electric shock or fire.

Perform installation work surely based on this Installation Manual.
- Incomplete installation causes an electric shock or a fire.

Ask an authorized dealer or qualified installation professional to reinstall adapters.
- Incomplete installation causes an electric shock or a fire.

For an electric work, this Installation Manual shall be referred and exclusive circuit shall be necessarily used. The used voltage shall be also match with the rated voltage of the product.
- If there is capacity shortage of electric circuit or installation work is poor, an electric shock or a fire may be caused.

⚠ CAUTION

- Using the specified wires, surely connect wires so that external force of wire is not applied to connecting part of the terminals; otherwise disconnection, heating or fire will generate.
- For wiring work, use wires with correct current capacity; otherwise earth leakage, heating or fire will generate.
- Do not apply an excessive force on the board body, otherwise bending, separation, or disconnection generates resulted heating or fire.

- After installation work, execute a test run to confirm there is no trouble.
  And also ask the customers to keep this Manual by themselves.

1. Object model

RAV-SM56*AT-E, SM80*AT-E
RAV-SM110*AT-E, SM140*AT-E

2. Accessories

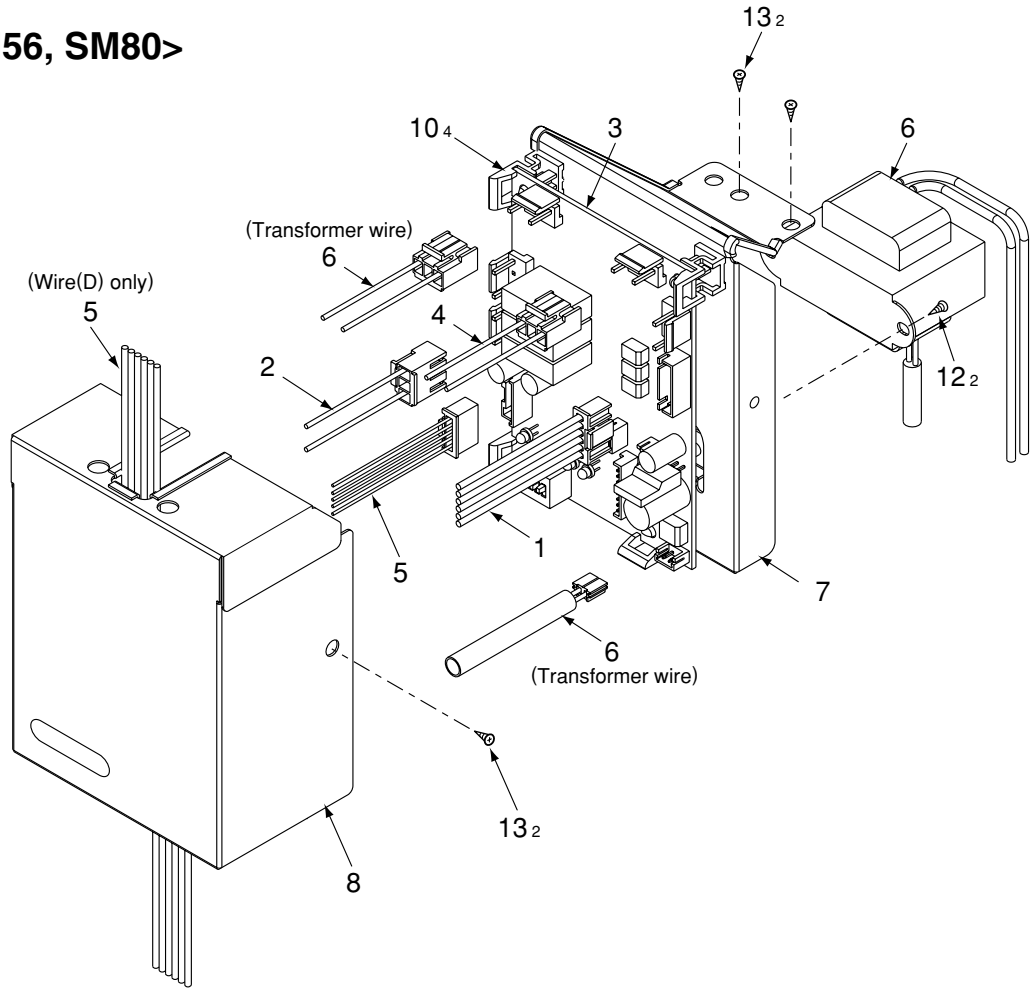
Name	Q'ty	Application
Wire(A) (Yellow connector : 5-core)	1	Connecting wire for Night operation(Sound reduction) control or Power peak-cut control
Wire(B) (Blue connector : 2-core)	1	Connecting wire for Compressor operation output
PCB	1	Application control PCB
Wire(C) (Red connector : 2-core)	1	Connecting wire for Power supply
Wire(D) (Blue connector : 5-core)	1	Connecting wire for Communication line
Transformer	1	————
Fixing plate(A)	1	Fixing plate(SM56,80)
Cover	1	For fixing plate(A)
Fixing plate(B)	1	Fixing plate(SM110,140)
Spacer	4	For fixing Application Control PCB
Clamp	2	For fixing plate(B)
Screws(A) (M3 x 6)	2	For fixing Transformer
Screws(B) (M4 x 8)	4	Fixing screws for mounting fixing plate and cover
Binding band	3	Used to process wires for binding the wires
Holder	2	————
Installation Manual	1	This Manual

Use	• Power peak-cut control	Correspond to the temporary power peak-cut control by controlling the capacity of the outdoor unit using an external signal. Capacity control is made in 3 steps of 75%, 50% and Operation stop.
	• Night operation (Sound reduction)	The capacity is controlled using a timer procured on site (to be purchased locally) regardless of the outdoor temperature and load to reduce the sound level of the operation.
	• Compressor operation output	Outputs a dry contact ON signal when the compressor is in operation.

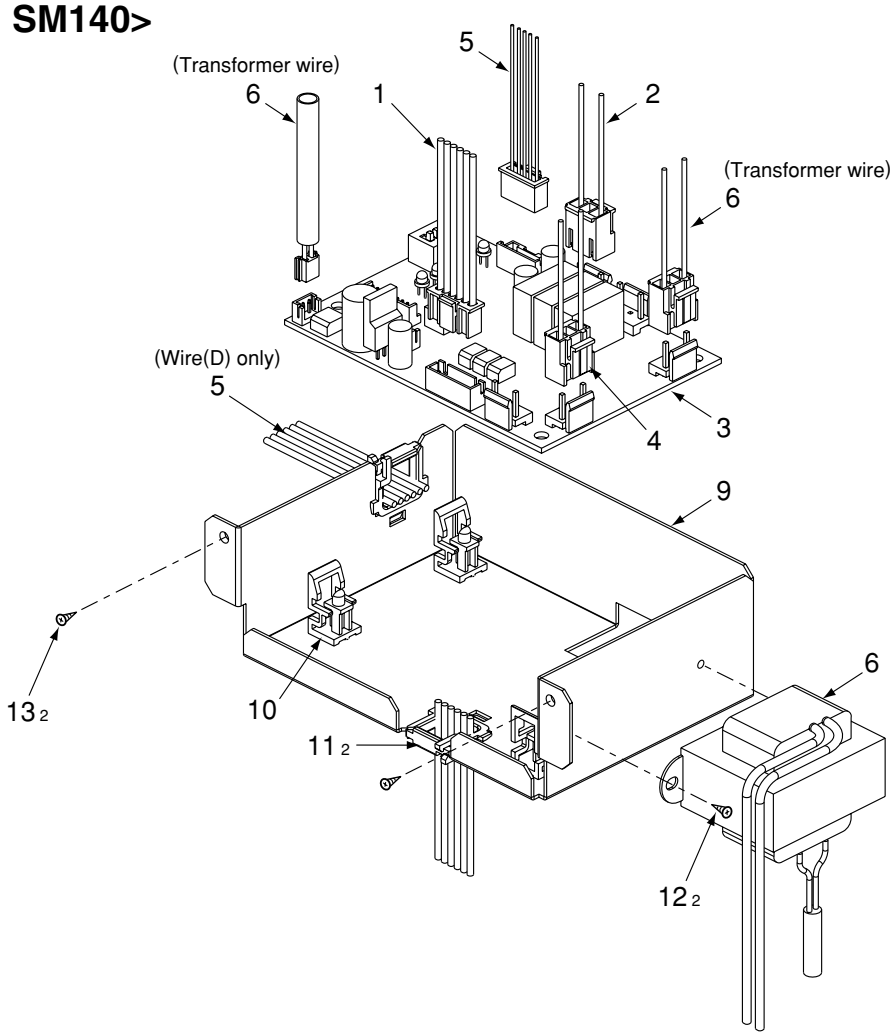
3. How to install

No.	Name	Q'ty	Q'ty to be used		Work items
			RAV-SM56,80	RAV-SM110,140	
1	Wire(A)	1	1	1	Connect a timer (local procurement) to the CN300 of PCB
2	Wire(B)	1	1	1	Connect a timer (local procurement) to the CN201 of PCB
3	PCB	1	1	1	————
4	Wire(C)	1	1	1	Connect between the CN100 of the PCB and faston receptacle of terminal block for power supply of the outdoor unit.
5	Wire(D)	1	1	1	Connect between the CN400 of the PCB and the PCB of the outdoor unit. (SM56,SM80 : CN806 SM110,SM140 : CN804)
6	Transformer	1	1	1	Connect to the CN101 and CN102 of PCB
7	Fixing plate(A)	1	1	————	————
8	Cover	1	1	————	————
9	Fixing plate(B)	1	————	1	————
10	Spacer	4	4	4	For attaching PCB
11	Clamp	2	————	2	For fixing Wire clamp
12	Screws(A)	2	2	2	For fixing Transformer
13	Screws(B)	4	4	2	For fixing plate(A), Cover, and fixing plate(B)
14	Binding band	3	3	3	Used suitably
15	Holder	2	————	2	————
16	Installation manual	1	1	1	————

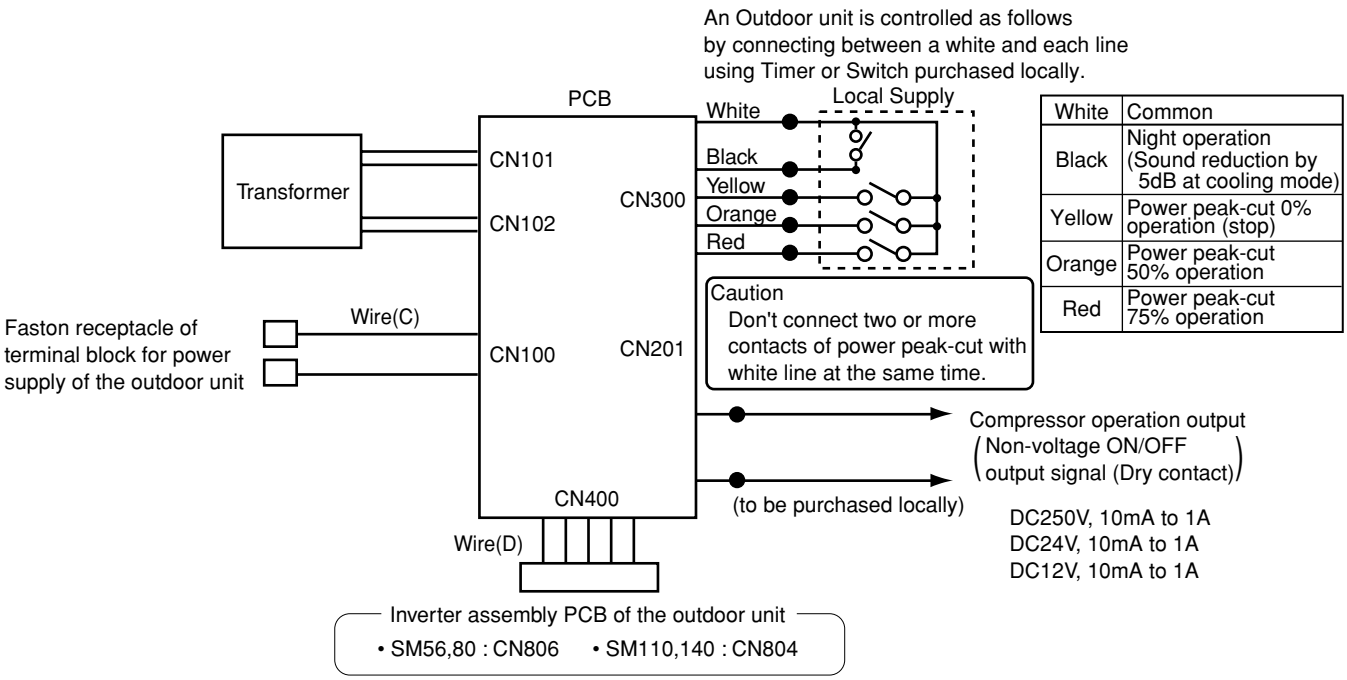
<RAV-SM56, SM80>



<RAV-SM110, SM140>



4. Wiring diagram



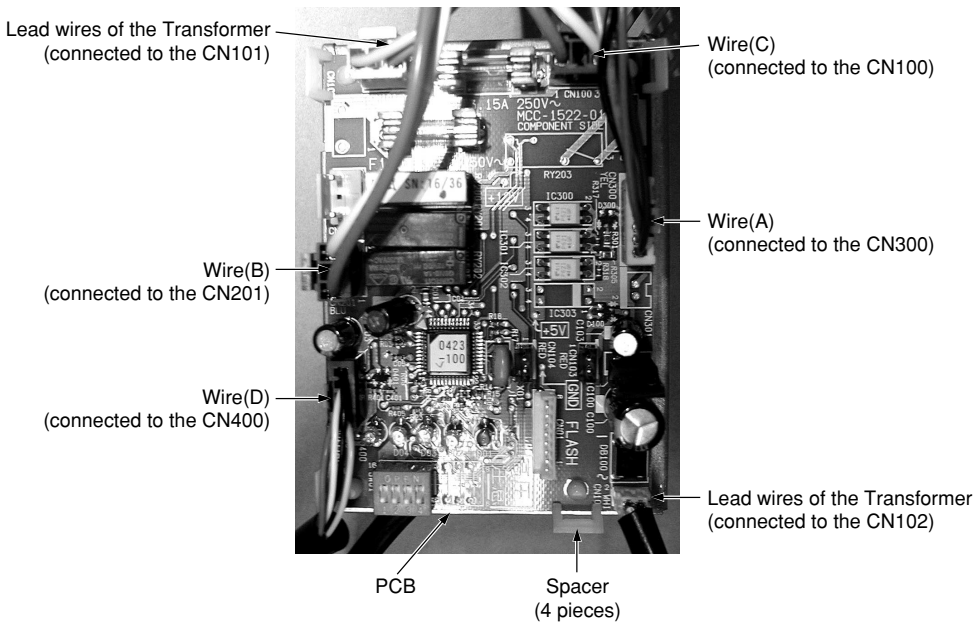
White	Common
Black	Night operation (Sound reduction by 5dB at cooling mode)
Yellow	Power peak-cut 0% operation (stop)
Orange	Power peak-cut 50% operation
Red	Power peak-cut 75% operation

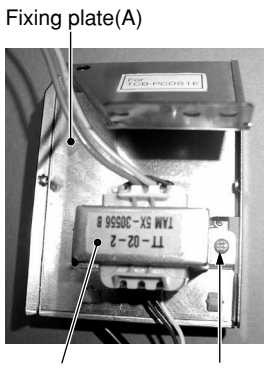
5. Parts installation method and assembly to the outdoor unit (SM56, SM80)

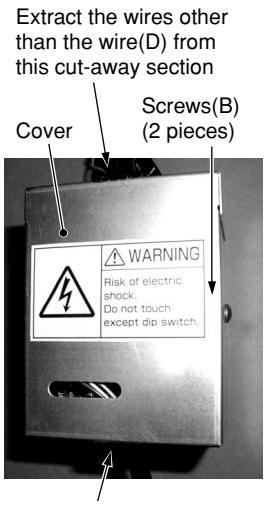
Installation method for the PCB of the outdoor unit

(1) Mount a Transformer to the rear side of the Fixing plate(A) using Screws(A) (2 pieces).
(2) Install Spacers (4 pieces) and PCB to the front side of the Fixing plate(A).
(3) Connect the Lead wires (2 types) of the Transformer to the CN101 and CN102 of the PCB. In addition, connect the Wire(C) (2-core) to CN100 and the Wire(D) (5-core) to CN400.

> To connect the Wire(A) and the Wire(B), refer to the Wiring diagram of installation method to connect the wires.







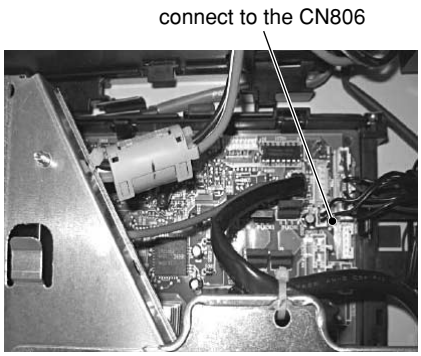
⚠CAUTION	**Don't allow the wires to come into pinching with cover parts.** Otherwise, the wires may be broken or heated or fire may occur.

(4) Close the cover to the Fixing plate(A) with Screws(B) (2 pieces). Pass the wires through the cut-away section of the cover and do not allow the wires to come into pinching.

Assembly to the Outdoor Unit

(1) Remove the Top plate.
(2) Remove the Front cabinet.
(3) Remove the Cover of packed valve and wiring lid.
(4) Fix the PCB assembly to the Inverter assembly with Screws(B) (2 pieces).
(5) Remove the power supply terminal block cover of the outdoor unit and connect the Wire(C) (2-core) to the faston receptacle of terminal block for power supply.
(6) Connect the Wire(D) (5-core) to the Inverter assembly.

• Connect the wire to CN806.



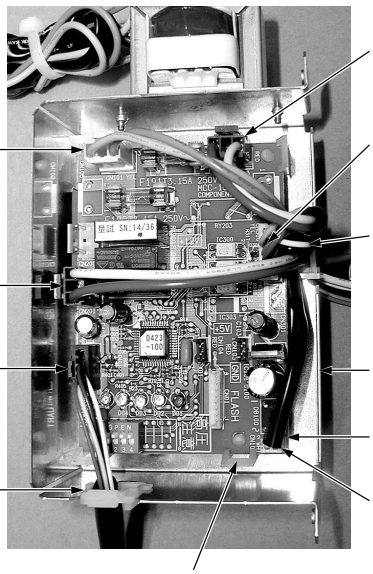
(7) Tie the wire with binding band, if necessary.
(8) Re-assemble the Front cabinet.

6. Parts installation method and assembly to the outdoor unit (SM110, SM140)

Installation method for the PCB of the outdoor unit

(1) Fix the clamp to the Fixing plate(B).
(2) Fix the Spacers(4 pieces) and PCB to the front side of the Fixing plate(B).
(3) Mount the Transformer to the Fixing plate(B).
(4) Connect the Wire(D) (5-core) to CN400.
Pass the wires through the Clamp section of the Fixing plate(B) and do not allow the wires to come into pinching.

⚠CAUTION	**Don't allow the wires to come into pinching with cover parts.** Otherwise, the wires may be broken or heated or fire may occur.

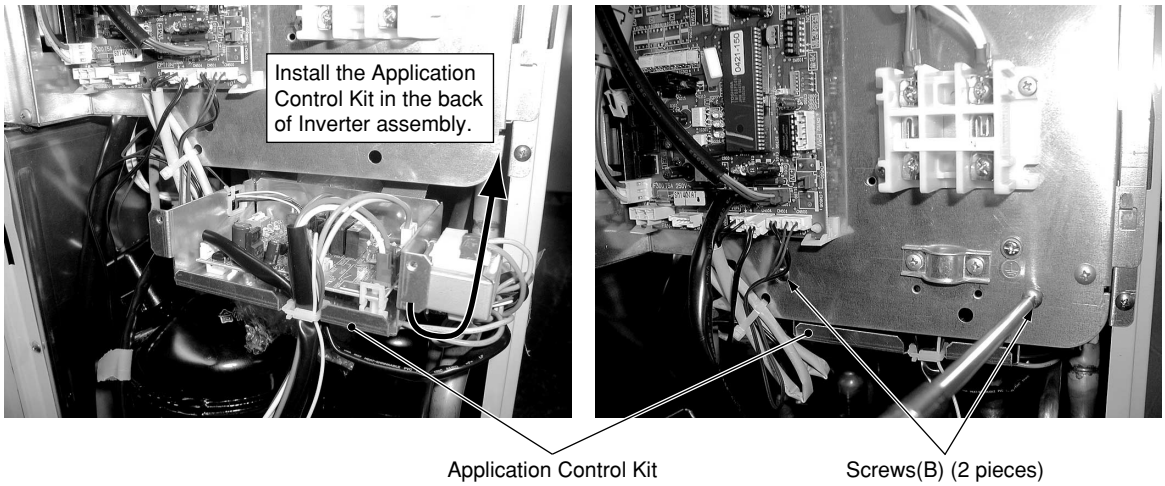


To connect the Wire(A) and the Wire(B), refer to the Wiring diagram of installation method to connect the wires.

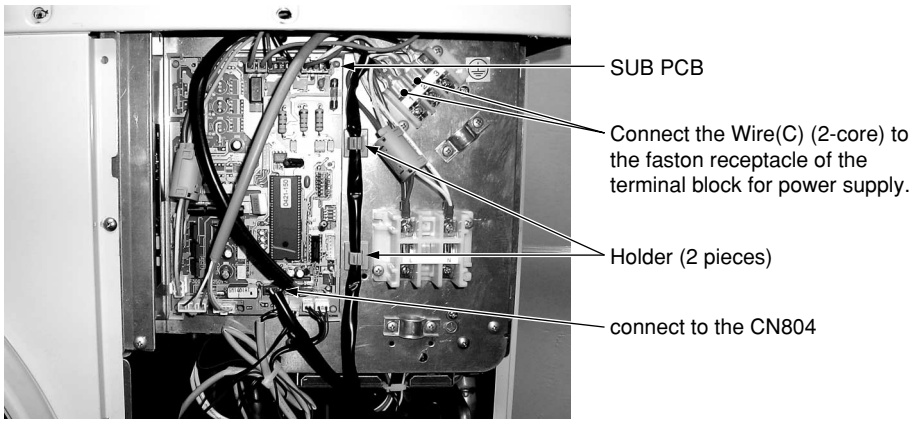
Assembly to the Outdoor Unit

(1) Remove the Front cabinet.

(2) Fix the Application Control Kit to the Inverter assembly with Screws(B) (2 pieces).



(3) Connect the Wire (D) (5-core) to CN804 of the SUB PCB.


SUB PCB
Connect the Wire(C) (2-core) to the faston receptacle of the terminal block for power supply.
Holder (2 pieces)
connect to the CN804

(4) Tie the wire with binding band, if necessary.

(5) Re-assemble the Front cabinet.